

## 3.1 - SIGHT LINES AND VISTAS

### PURPOSE:

This chapter examines the circumstances under which removal or alteration of vegetation is allowed and the extent to which it can occur in order to achieve reasonable sight lines and vistas. The intent in providing a sight line or vista is to allow the property owner an enhanced view of an adjacent water body, but to do so in such a way as to retain the water quality functions provided by the buffer.

### REGULATIONS:

§9 VAC 10-20-130.5.a states that:

“In order to maintain the functional value of the buffer area, existing vegetation may be removed, subject to approval by the local government, only to provide for reasonable sight lines, access paths, general woodlot management, and best management practices, including those that prevent upland erosion and concentrated flows of stormwater, as follows:

(1)“Trees may be pruned or removed as necessary to provide for sight lines and vistas, provided that where removed, they shall be replaced with other vegetation that is equally effective in retarding runoff, preventing erosion, and filtering non-point source pollution from runoff.”



A sightline is a filtered view to the water.  
Woody vegetation is retained.

## DEFINITIONS

**SIGHTLINE\***: a line extending from an observer's eye to a viewed object or area

**VISTA\***: a distant view through or along an avenue or opening

**TROPHIC LAYER**: a level or group of vegetation sharing similar characteristics such as size: i.e. the canopy layer, the shrub/sapling layer, or the groundcover layer

\* according to Merriam-Webster Dictionary online <<http://www.merriamwebster.com/cgi-bin/dictionary>>

## DISCUSSION:

Vegetated riparian buffers are the last defense in preventing non-point source pollution from reaching the Chesapeake Bay and its tributaries. Not only does the buffer mitigate runoff from the upland but, if forested, it also removes nutrients and pollutants from ground water that originates from areas further away from the surface water. The roots of trees and shrubs and their associated microbes can help remove nitrogen and convert some pesticides and other toxins to harmless substances before they reach ground water and surface waters. Roots and leaf litter also help slow stormwater runoff, allowing infiltration into the soil where pollutants may be removed and the ground water recharged.

The desire to view the water is a major reason for development along rivers and shorelines. Understandably, owners often prefer to have an open, unobstructed view of the water. However, excessive removal of buffer vegetation can reduce the effectiveness of the buffer functions.

In order for the buffer to function as intended, it should contain the full complement of vegetation that includes all trophic layers: shade trees, understory trees, shrubs, and ground cover, whether the groundcover is vegetation, leaf litter, or mulch. Therefore, should trees or other vegetation be removed to provide a view, they must be

## A GOOD SIGHTLINE CLEARING

- ✓ Achieves a filtered view through vegetation.
- ✓ Retains all trophic layers.
- ✓ Replaces any removed vegetation with woody vegetation of equal value.
- ✓ Uses appropriate native vegetation.



## THIS!

Example of a good sightline towards the water. All trophic levels are retained, yet a clear framed view of the water is achieved.

replaced with material that provides an equivalent level of water quality protection. The Vegetation Replacement Rates table, found in Appendix D, is considered to provide an equivalent level of water quality protection and may be a useful reference for local governments.

*An entire trophic layer should not be removed.*



### NOT THIS !!

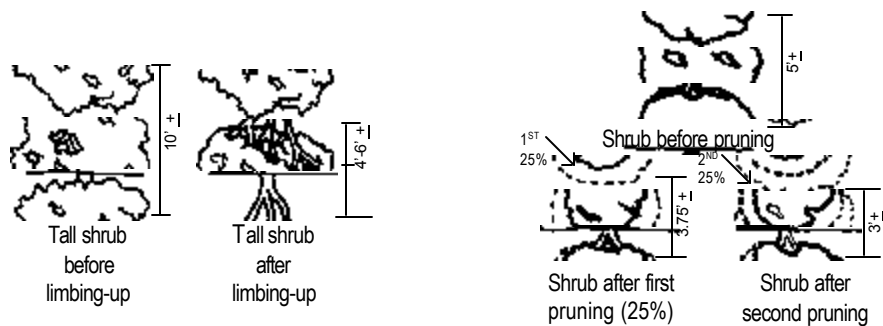
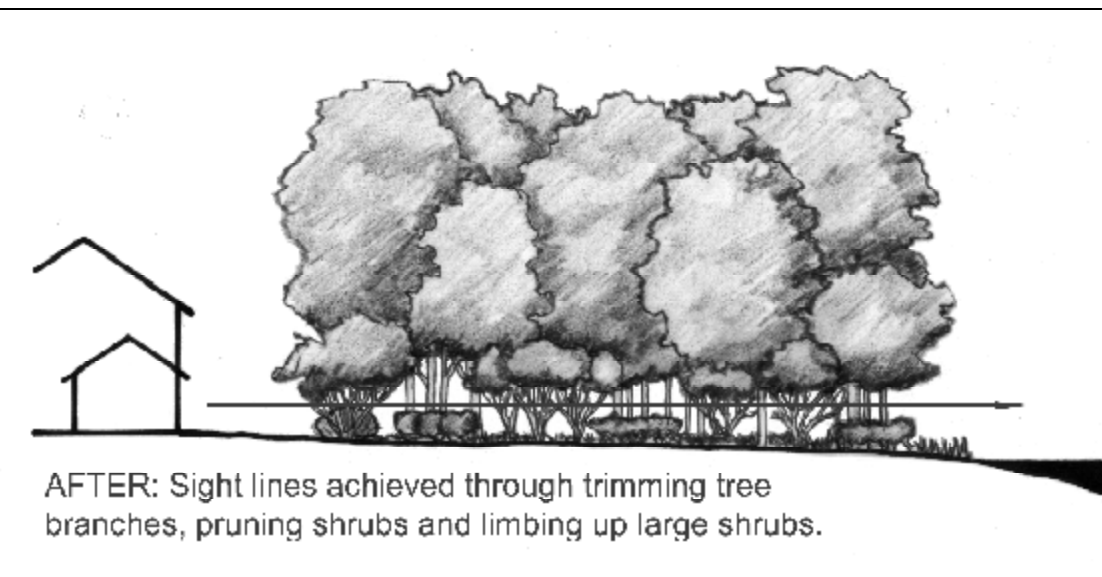
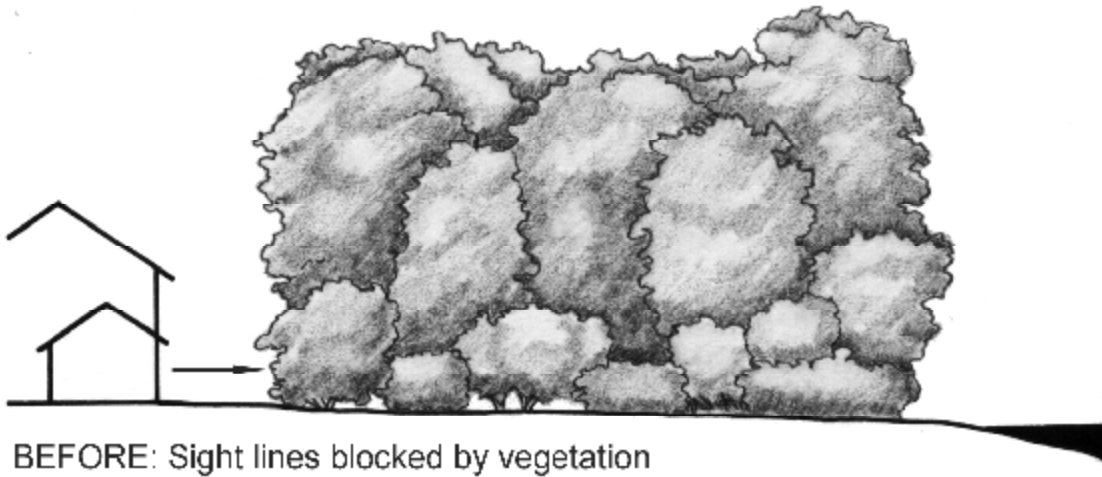
Entire understory and groundcover has been removed. The woody vegetation has not been replaced.

#### ✗ UNACCEPTABLE PRACTICES

- ✗ Clear-cutting any area within the buffer.
- ✗ Removal of a complete trophic layer.
- ✗ Removal or disturbance of groundcover, be it vegetation, mulch, leaf litter, or woody debris.
- ✗ Conversion of groundcover plants or leaf litter to lawn.

An existing forested buffer, containing shade trees, understory trees, shrubs, and groundcover, may not allow a reasonable view of the water, so a combination of pruning and judicious removal of a reasonable amount of vegetation may be permitted. ***There should be no reason to remove any leaf litter or groundcover to achieve sight lines or vistas.*** Appropriate native woody vegetation must replace trees and shrubs that have been removed so that the buffer will still achieve the requirement for retarding runoff, preventing erosion, and filtering non-point source pollution as set forth in §9 VAC 10-20-130.3.

Once the preferred sight lines are chosen for views through a dense existing buffer, the most desirable solution would be to prune trees and shrubs to enhance the view. This will maintain the functional integrity of the buffer while allowing filtered views of the water body. A clear-cut or removal of too many trees and shrubs prevents the buffer from maintaining its water quality functions. ***Clear-cutting of any area is not permissible to achieve sight lines or vistas.*** Pruning can open up what appears to be dense, impenetrable vegetation and will often provide extensive, pleasing, and interesting water views. Shrubs may also be



#### PRUNING

- Prune shrubs down to a minimum of 3' or limb up
- Do not remove more than 25% of any plant at one time to assure plant survivability.<sup>1</sup>

<sup>1</sup> Judy Okay, Virginia Department of Forestry. e-mail. October 1, 2002.



A vista may be created by the judicious removal of vegetation to achieve a framed view to the water. Woody vegetation is retained on either side, at the top of the bank and on the bluff below.

pruned down for views over them, and tall shrubs may be limbed up to create a tree form that allows views under the canopy.

***Always consider pruning and retaining existing buffer vegetation before deciding to remove of any vegetation.*** However, circumstances may preclude the preservation of all trees and shrubs in the buffer if a view is to be achieved. In this situation, a combination of pruning and removal with replacement may be used to create a vista.

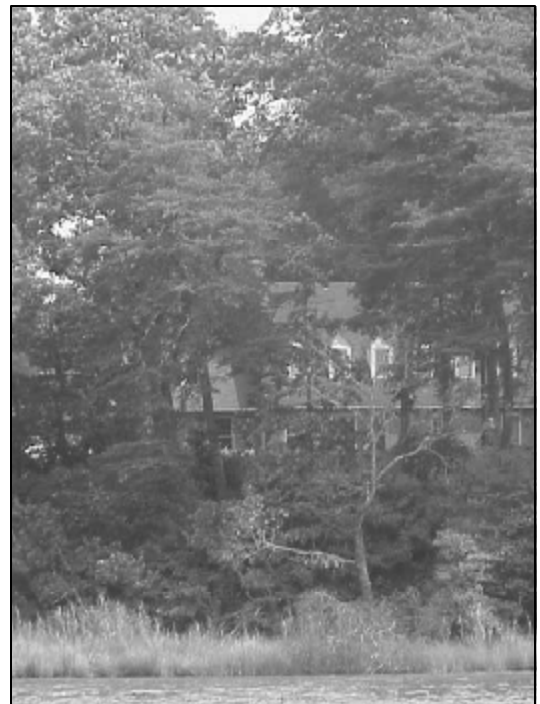
Vegetation on and at the top of a stable bank or slope should be retained. Woody vegetation is valuable for reducing the speed and erosive ability of runoff as well as holding soil in place with deep fibrous roots. The ability of this portion of the buffer to prevent runoff from running down the slope face is invaluable in preventing erosion of the bank and bank failure. The roots also absorb ground water from the soil reducing the potential for slumping. Failure of a bank is hastened by removal of vegetation. Consideration should be given to retaining as much existing woody vegetation on the slope as is feasible to prevent the future need for expensive shoreline remediation.

The local government should have the applicant identify preferred sight lines from the house or other area from which a view is desired and provide photographs from those positions. Ideally, thinly vegetated or open areas should be identified for any vistas or sight lines rather than areas that require modification of an intact buffer. Sight lines should be established after the house has been constructed, so the sight lines will relate to the house, patio or other desired standpoint.

Dead or diseased vegetation should be given priority for removal. Then consideration may be given to to

#### LANDOWNER STEPS TO CREATE SIGHTLINES

- Choose sight lines and/or vista from the house to the water.
- Select vegetation for pruning.
- Prepare plan for pruning, removal and restoration.
- Mark vegetation proposed for pruning or removal.
- Notify local government for site visit.
- Receive local government approval prior to any action in the buffer.
- Prune or limb up trees and shrubs per approved plan.
- Remove approved vegetation.
- Replace woody vegetation as described in Chapter 5 - Buffer Establishment.



Vegetation on the bank is retained, while sightlines were achieved through pruning and limbing up of trees.

removing pruned shrubs or understory trees that interfere with the sight line. Limit this to removing the fewest feasible. Finally, canopy and understory trees may be considered for removal to create a framed view towards the water, again limited to the fewest feasible..

### Multi-family

In multi-family, apartment, condominium or townhouse developments, each individual unit should not expect to have vistas of the water created through removal of vegetation, since that would potentially diminish the function of the buffer beyond what is required by the regulations. Pruning and limbing should be used to provide views. A vista to the water may be provided from a common area, rather than creating multiple individual views.

#### REMOVAL RATES

Some counties have chosen removal rates based on the following criteria:

- A % square feet within the buffer to a maximum total square footage.
- A % of the number of trees within the buffer (stem count)
- A % of the basal area within the buffer.
- A % of canopy coverage within the buffer.

### Properties with impacted buffers

For properties where encroachments have already been allowed in the buffer, reducing the woody vegetation to less than the 100-foot width, local governments should carefully evaluate requests to remove additional vegetation for a sight line. Since a portion of the vegetated buffer has already been impacted, further removal of woody vegetation could compromise the function of the buffer for pollutant removal. When



Landowners with structures encroaching upon the buffer should limit removal of any additional vegetation to achieve sightlines. Pruning may be sufficient.

starting with a diminished buffer, removal of more vegetation should be the last alternative. Pruning and limbing up of vegetation through the most open or thinly vegetated areas of the buffer may provide an acceptable filtered view to the water.

### **Replacement planting**

Any trees or shrubs removed should be replaced within the buffer with native trees, shrubs, groundcover shrubs, vines, or native perennial, ornamental herbaceous material . (See Appendix A for suggested vegetation for replacement and Appendix D for suggested replacement rates.) Woody vegetation, such as native trees and shrubs, is preferred for replacement plantings, since they have the greatest ability to survive and fulfill the water quality goals of the Chesapeake Bay Preservation Act.

Some local governments that have the authority to do so, require some type of performance guarantee to ensure that the plantings will be established and survive for a reasonable period of time (two years has been suggested), subject to a final inspection by local government staff. These localities typically require that dead or dying plants be replaced and continue the guarantee to ensure the survival of the newly replanted material.

### **CONCLUSIONS:**

- The intent of the Regulations is to retain a functioning vegetated buffer, preferably a naturally forested one, while allowing filtered views to the water.
- Providing sight lines through the buffer should be accomplished with the least amount of disturbance to the existing vegetation.
- All attempts should be made to retain a forested buffer that mimics an undisturbed existing native forest.
- Removal of any vegetation within the buffer requires local approval.
- Open or sparsely vegetated areas should be selected for sight lines before considering undisturbed areas that would require modification and replanting.
- No vegetation should be removed, nor should sight lines be chosen, until construction on the site is finished.
- Groundcovers of woody or herbaceous vegetation, leaf litter, humus or mulch should not be disturbed or removed.

- The first step in creating a sight line should be pruning carefully selected tree limbs and shrubs to allow views through the vegetation.
- Dead or diseased trees should be considered first for removal to create a sight line.
- After the pruning, if removal of any additional vegetation is deemed necessary, replacement of the removed woody vegetation is required within the buffer to retain the buffer functions.

#### **RECOMMENDED PROCEDURE FOR LOCAL GOVERNMENTS :**

Steps to evaluate a request for sight lines or vistas:

- 1) The local authority should require an applicant to submit plans for creating sight lines or vistas.
  - a) The plans should indicate the onsite location of existing trees and shrubs, and indicate the species and size of trees proposed for removal in the area of the proposed sight line.
  - b) The plan should identify the location, size, and species of proposed replacement plantings.
  - c) The plan should show the house and indicate the location from which a view is desired.
  - d) Preference should be given to using existing views and open areas or thinly vegetated areas within the buffer for a sight line.
- 2) A local government staff member should meet with the applicant on site to evaluate the existing vegetation and determine what is the least disruptive method for providing requested sight lines or vistas.

#### **PLAN ELEMENTS FOR A SIGHTLINE REQUEST**

All plans should contain the following information:

- Property owner's name and address
- Property boundaries
- The structure from which a sight line is desired
- Location of existing trees and shrubs
- Location, size and species of trees or shrubs to be pruned or removed
- Location, size and species of replacement trees, shrubs, and groundcover
- Maintenance schedule for replacement planting



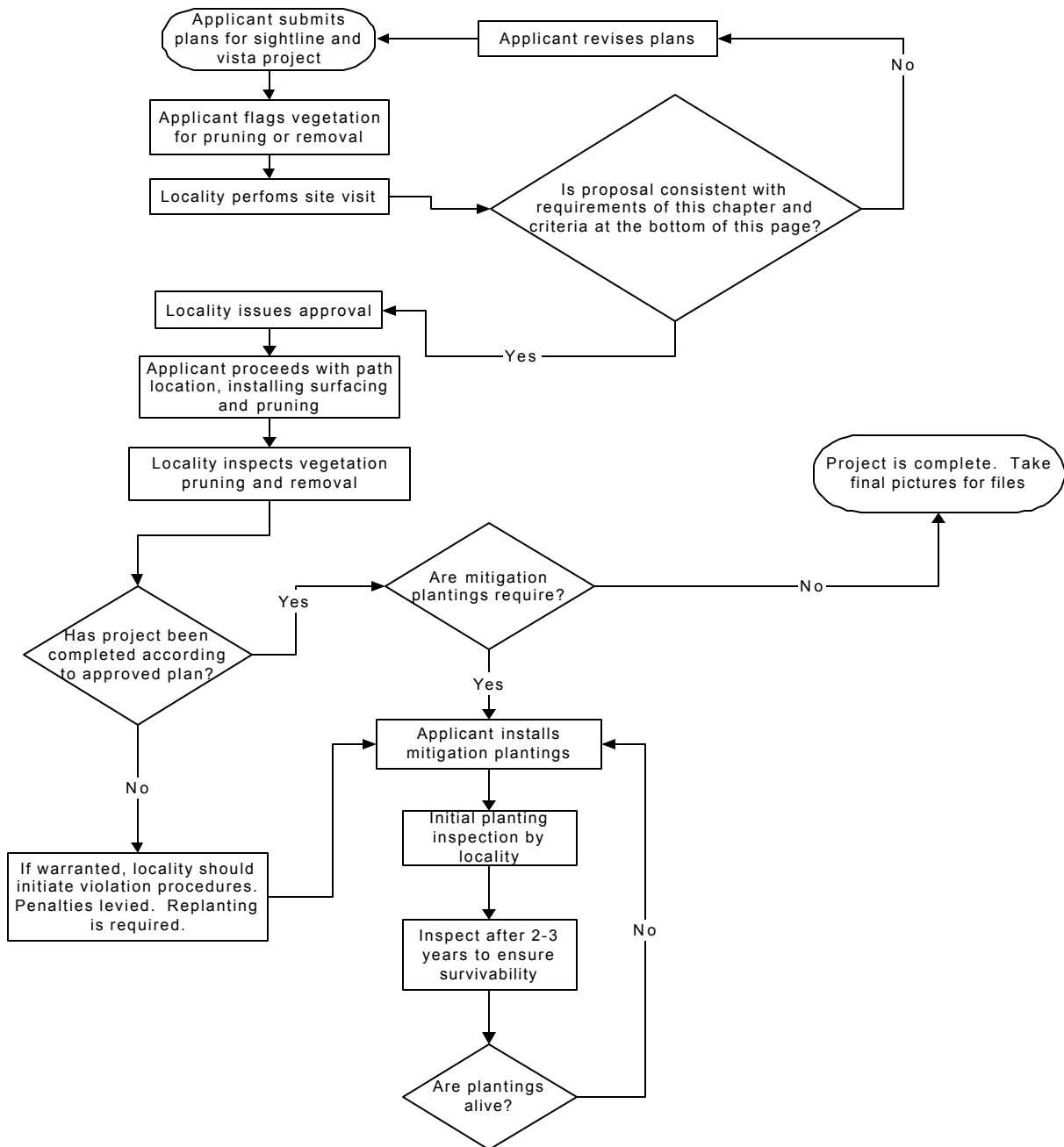
- a) The applicant should flag all trees and shrubs proposed for pruning or removal for inspection by the local government staff before any vegetation is removed.
  - b) Preference should first be given to dead or diseased trees for removal before considering removal of healthy vegetation .
- 3) The first option for achieving a view should be the pruning of shrubs and limbing up of trees.
  - 4) Modifications to the submitted removal and replacement plan, reflecting any agreements at the time of site visit, should be resubmitted to staff for final approval before any vegetation is removed.
  - 5) After the chosen solution has been approved and implemented, staff should inspect the site to assure that only the approved pruning and/or removal has taken place.
    - a) Should violations be found at the inspection, the locality should require replacement plantings and other penalties as appropriate. (See Chapter 7 for a discussion on violations and Appendix D for suggested replacement planting options).

### **LOCAL GOVERNMENT OPTIONS**

Local governments, that have the authority and exercise it as a matter of course, have found that the use of a performance guarantee is helpful in assuring that replacement plantings are installed and cared for until they are established.

1. A performance guarantee may be part of the approval process.
2. Such performance guarantee typically has two parts.
  - a. Part 1 assures initial installation according to plans.
    - (1) Part 1 is usually not released until an inspection has occurred after planting.
  - b. Part 2 assures replacement of plants that do not survive.
    - (1) Part 2 is usually not released until inspection (usually after two or more years, as specified in the guarantee) to assure survival of the planted material.
3. If the activity has occurred outside of the fall or spring planting season, the performance guarantee should assure planting during the next planting season.

## Recommended local review and approval process for sightline and vista projects



### Suggested review criteria for sightline and vista clearing projects:

1. Has pruning been considered before removal of vegetation?
2. Is there an opportunity to remove dead, diseased, or non-natives species to provide a sightline?
3. Does the proposal include clear-cutting or the removal of an entire trophic layer?
4. Does the mitigation plan provide for the required buffer function?
5. Are the proposed clearing and/or pruning methods consistent with the recommendations in this chapter?
6. If replacement plantings are required, is a performance guarantee being applied?
7. Is the proposed sightline "reasonable" or is it excessive?